

WHAT IS CLAIMED IS:

1. A buck/boost converter comprising
an input and an output;
a switching cell with a switch between the input and the output;
a selector selectively configuring the switching cell into at least two configurations from among the following:
a parallel chopper configuration or
a series chopper configuration or;
an inductive-storage chopper configuration;
the cell using the same switch in all the configurations.
2. The converter according to claim 1 wherein the selector selectively configures the switching cell from among the three configurations.
3. The converter according to claim 1 wherein the switching cell comprises an inductor and diodes.
4. The converter according to claim 2 wherein the switching cell comprises an inductor and diodes.
5. The converter according to claim 5 wherein the switch is a transistor.
6. The converter according to claim 2 wherein the switch is a transistor.
7. The converter according to claim 3 wherein the switch is a transistor.
8. The converter according to claim 4 wherein the switch is a transistor.
9. The converter according to claim 5 wherein the switch is a high-frequency transistor, for example, 30 kHz.

10. The converter according to claim 1 wherein the selector comprises two transistors.
11. The converter according to claim 2 wherein the selector comprises two transistors.
12. The converter according to claim 3 wherein the selector comprises two transistors.
13. The converter according to claim 5 wherein the selector comprises two transistors.
14. The converter according to claim 9 wherein the selector comprises two transistors.
15. The converter according to claim 10 wherein the selector comprises two transistors of a low-frequency, for example, 50 kHz.
16. The converter according to claim 1 wherein in the parallel chopper configuration, the transistors are both conducting.
17. The converter according to claim 2 wherein in the parallel chopper configuration, the transistors are both conducting
18. The converter according to claim 3 wherein in the parallel chopper configuration, the transistors are both conducting
19. The converter according to claim 5 wherein in the parallel chopper configuration, the transistors are both conducting

20. The converter according to claim 9 wherein in the parallel chopper configuration, the transistors are both conducting

21. The converter according to claim 10 wherein in the parallel chopper configuration, the transistors are both conducting

22. The converter according to claim 1 wherein in the series chopper configuration, the transistors are both non-conducting.

23. The converter according to claim 2 wherein in the series chopper configuration, the transistors are both non-conducting.

24. The converter according to claim 3 wherein in the series chopper configuration, the transistors are both non-conducting.

25. The converter according to claim 5 wherein in the series chopper configuration, the transistors are both non-conducting.

26. The converter according to claim 9 wherein in the series chopper configuration, the transistors are both non-conducting.

27. The converter according to claim 10 wherein in the series chopper configuration, the transistors are both non-conducting.

28. The converter according to claim 1 wherein in the inductive-storage chopper configuration, the transistor is conducting and the transistor is non-conducting.

29. The converter according to claim 2 wherein in the inductive-storage chopper configuration, the transistor is conducting and the transistor is non-conducting.

30. The converter according to claim 3 wherein in the inductive-storage chopper configuration, the transistor is conducting and the transistor is non-conducting.

31. The converter according to claim 5 wherein in the inductive-storage chopper configuration, the transistor is conducting and the transistor is non-conducting.

32. The converter according to claim 9 wherein in the inductive-storage chopper configuration, the transistor is conducting and the transistor is non-conducting.

33. The converter according to claim 10 wherein in the inductive-storage chopper configuration, the transistor is conducting and the transistor is non-conducting.

34. The converter according to claim 1 comprising a capacitor for filtering the voltage at the output.

35. The converter according to claim 1 comprising a diode bridge at the input.